

## The Huge Chasm that Arose Between Monetarism and Reality: Japan's Experiment with QE

The key policy prescription of the monetarist policy school, identified most closely with the late Milton Friedman and 1995 Nobel laureate Robert E. Lucas Jr., is the adoption of a stable, predictable, and modest rate of growth of the money supply. In his Nobel address, Lucas (1995) stressed that cross-country empirical work demonstrated that regardless of the measure of money used, there was a well-documented close correspondence between the long run rate of money growth and inflation.

In operational terms, that is, in reality rather than in stylized models, the pursuit of a monetary rule requires the central bank to manipulate variables under its control to achieve its target. Although in principle central banks could attempt to attain monetary targets through interest rate policy, monetarists through the years have insisted that central bank operations focus on controlling the "monetary base", that is, the direct liabilities of the central bank (CDDL).

CDDL comprise bank reserves and currency. Since currency world-wide is invariably allowed to fluctuate in response to market demand, controlling CDDL amounts to controlling the quantity of reserves in the financial system. In simple textbook expositions of monetary control, the amount of reserves is determined as the result of "open market operations", purchases and sales of securities. Changes in reserves were then hypothesized to feed through the financial system through a process monetarists called the "money multiplier". Monetarists see the central bank as able to adjust bank reserves to achieve a money growth rate target that is closely related to, indeed "causes" inflation.

One of the many problems with the monetarist view of the world is that central banks insisted over the last decades that they did not operate the way monetarists posed. In more technical terms, they did not control the monetary base but allowed it to adjust to market demand, that is, the base was endogenous rather than exogenous. And if the base were endogenous rather than exogenous, any "causal" relationship between money and prices could not logically be ascribed to money driving prices but the other way around.

In a sense, this discrepancy between behavior as modelled and behavior in the real world provided monetarists with an "out" when the tight correlation between money and prices evaporated in recent times. As discussed in Stella, Singh and Bhargava (forthcoming) and other papers, the correlation between various measures of money and inflation cited by Lucas (1995)—McCandless and Weber (1995), covering the period 1960-89—has completely broken down during the last 30 years.

One reason for this might be that central bankers converged during the last 30 years to targeting and focusing on short-term interest rate variables and increasingly paid less and less attention to monetary variables<sup>1</sup>. Notwithstanding certain theorists insistence that there was no evidence that this "worked". See, for example, Lucas (1995) "Central bankers and even some monetary economists talk

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<sup>1</sup> "Before the recent crisis, monetary policy implementation across countries had generally converged on an approach in which the policy stance is defined exclusively in terms of a short term interest rate—henceforth referred to as 'interest rate policy'". Borio and Disyatat (2009).

knowledgeably of using high interest rates to control inflation, but I know of no evidence from even one economy linking these variables in a useful way..."<sup>2</sup>

Laidler (2006), in his lectures on monetary theory and policy pointed out that Friedman's revived Quantity Theory of Money was not truly tested (in OECD countries) as central bankers did not behave as they were modelled: "...where Friedman had advocated that the monetary base be used as the policy instrument whereby money growth was controlled, actual policy relied on the manipulation of an interest rate. Central banks in effect used a model of the generation of the money supply in which the latter variable was posited to adjust passively to the behaviour of real income and prices..."

This was to change with the Bank of Japan's experiment with quantitative easing (QE).

"The Bank of Japan's policy between 2001 and 2006 provides one example of quantitative easing. It had the following key features: first, it involved a shift in the operational target for money market operations from the uncollateralized overnight call rate to the outstanding balance of current account deposits at the Bank of Japan, or in short the bank reserves..."<sup>3</sup>

When the Bank of Japan introduced a quantity target for CBDL in its QE experiment, it first forecast the demand for currency (which it supplied on demand) then subtracted this amount from the target for CBDL and thereby derived the operational target for bank reserves.

"A commitment such as increasing cash in circulation at a certain rate literally gives a picture of quantitative easing, and thus is quite attractive as a message to the public. Since a central bank cannot control the amount of cash in the purse of the public, all operations of the central bank have to be geared toward *reserves* to implement base money targeting."<sup>4</sup> (italics added). We have here a clear and precise commitment to increasing reserves to attain an inflation objective.

Friedman's view of the potential of this policy, particularly that monetary aggregate expansion alone is sufficient to engender inflation, is evident below.

"The Bank of Japan can buy government bonds on the open market, paying for them with either currency or deposits at the Bank of Japan, what economists call high-powered money. Most of the proceeds will end up in commercial banks, adding to their reserves and enabling them to expand their liabilities by loans and open market purchases. But whether they do so or not, the money supply will increase.

There is no limit to the extent to which the Bank of Japan can increase the money supply if it wishes to do so. Higher monetary growth will have the same effect as always. After a year or so, the economy will expand more rapidly; output will grow, and after another delay, inflation will increase moderately. A return to the conditions of the late 1980s would rejuvenate Japan and help shore up the rest of Asia."<sup>5</sup>

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<sup>2</sup> Lucas (1995), page 249.

<sup>3</sup> Bini Smaghi (2009), p. 5.

<sup>4</sup> Okina (1999), p. 174

<sup>5</sup> Friedman (1998).

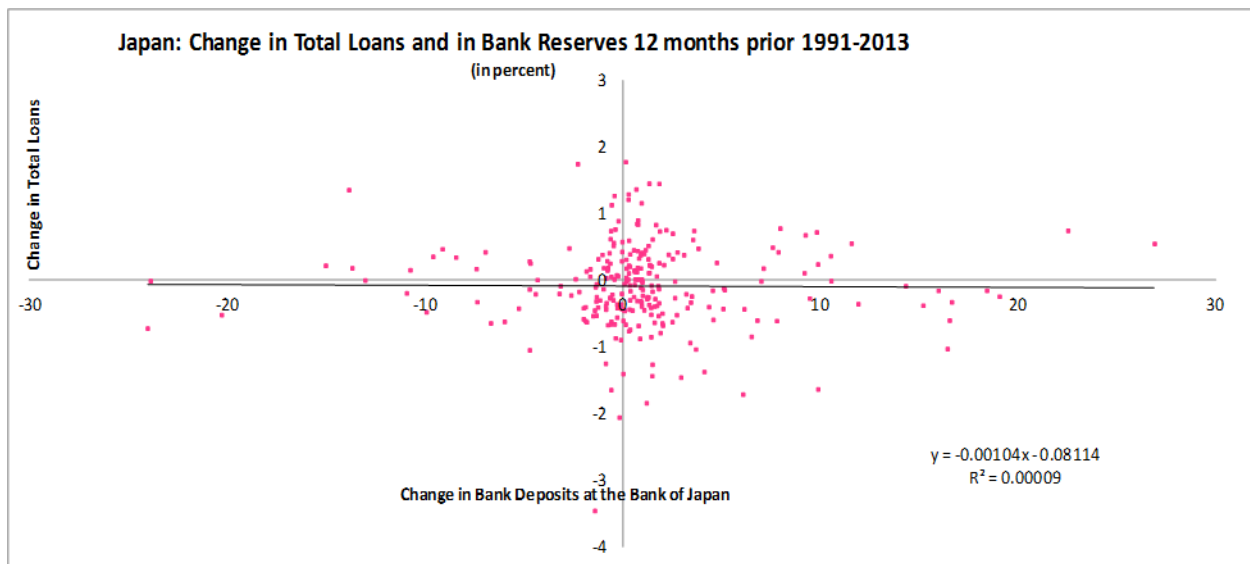
How exactly the money supply beyond M0 would expand without an increase in bank lending is rather unclear as is what the mechanism would be to foster inflation without an expansion of credit.

The type of “open market expansion” described by Friedman is merely an exchange of treasury bills held by the public/banks for reserves. The counterpart of the decline of credit from the economy to the government (sale of treasury bills) would be exchanged for credit from the public to banks (customer deposits are effectively lending to banks) and a corresponding increase of net lending from banks to the central bank (bank deposits are a form of lending to the central bank). Consolidating the central bank and government, an open market security purchase is simply a swap of sovereign financing through securities for borrowing from the banking system.

Not only is such an operation unlikely to have any stimulative macroeconomic impact<sup>6</sup>, but it could be contractionary as it replaces fungible treasury securities that can be held by investors worldwide, and used as collateral in global capital markets with deposits held at the central bank that are tradeable only among banks authorized to hold such accounts<sup>7</sup>.

More than twenty years after this remark by Friedman the assessment of Japan’s QE experiment is in. Not only did credit not respond to changes in bank reserves but inflation has remained dormant despite extraordinary efforts of the authorities to use direct monetary expansion to raise the rate of inflation.

The first figure shows that the correlation between changes in the monetary base lagged by 12 months and Japanese bank credit expansion during 1991-2013 is exactly zero.



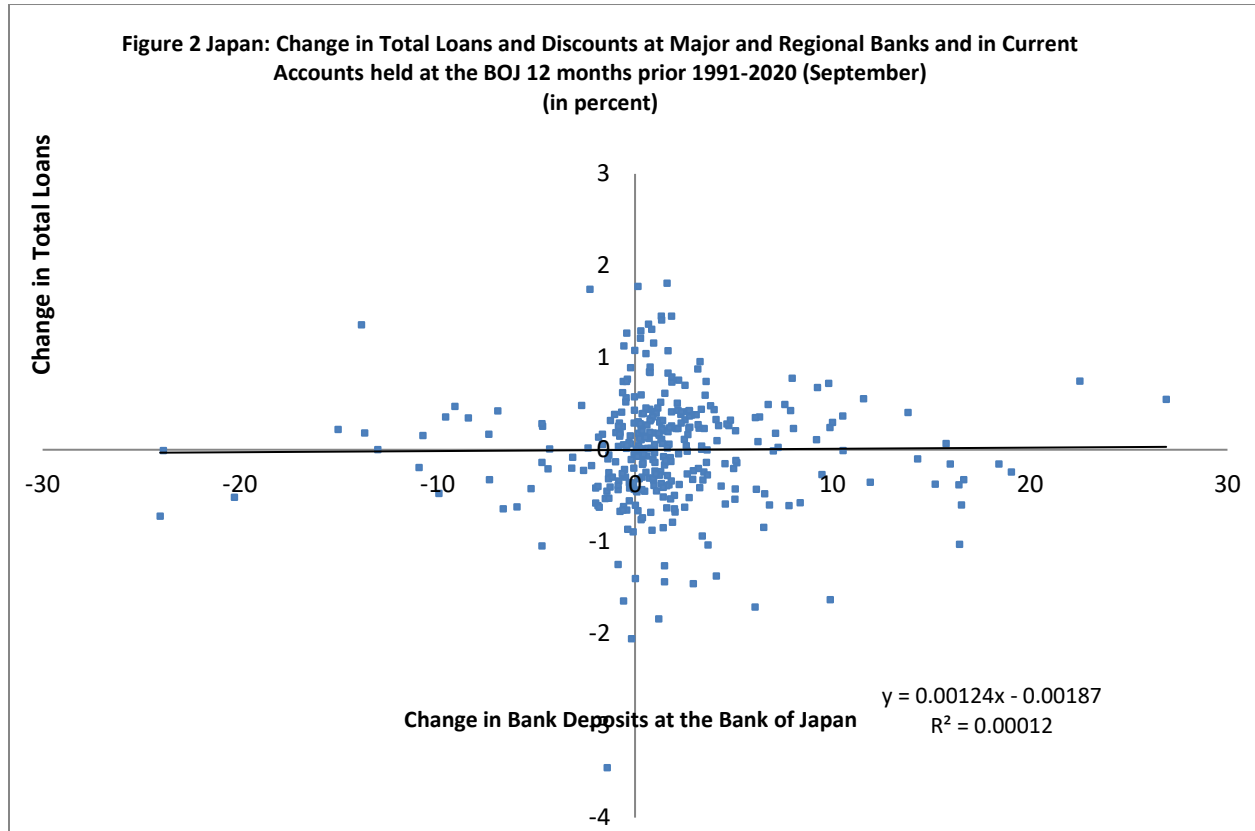
The variance of loan growth explained by the variance in bank reserves is virtually zero.

Figure two adds the last 7 years of data including successive rounds of QE. The results are broadly unchanged. Not only did changes in bank reserves not lead to proportional changes in bank lending,

<sup>6</sup> This is precisely the point of Wallace (1981)

<sup>7</sup> See Exiting Well elsewhere on this website as well as Singh and Stella (2012).

they are uncorrelated with subsequent bank lending. As far as inflation, the correlation during 1990 and 2019 between M0, M1 and M2 and Japanese inflation was .01, -.26 and -.24 respectively.



These numbers speak for themselves and indicate that the breakdown of the relationship between money and inflation is not confined to cases where central banks were actively using interest rate policy.

Even when the Bank of Japan conformed to monetarist modelling assumptions, the monetarist model failed miserably. Thus, Japan is reflective of the cross-country evidence and not an outlier:

“The monetary base—such a common concept in the literature—plays no significant causal role in the determination of the money supply (bank deposits with the non-bank public plus cash) or bank lending. It is not surprising that, as the experience in Japan has shown, large increases in bank reserves have no stable relationship with the stock of money...As has become increasingly recognized, the money multiplier—the ratio of money to the monetary base—is not a useful concept.”<sup>8</sup>

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Central Bank Archaeology  
November 2020

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